

REMARKS

Claims 1- 4 are pending in the application. The Examiner has rejected claims 1- 2 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,613778 (Feldman). The Examiner has rejected claims 3 - 4 under 35 U.S.C. §103(a) as being unpatentable over Feldman in view of U.S. Patent No. 6,167,948 (Thomas). In this Reply, claims 2 and 3 have been canceled while claim 1 has been amended to further reflect the differences between this invention and the cited prior art, namely Feldman and Thomas.

Feldman discloses a flat plate heat pipe with at least two layers of structural wicks inside, one wick layer is a layer of screen wire honeycomb and another layer is a porous metal layer. (See Abstract and claim 1 of Feldman). At the meantime, Thomas states the objective of his invention is to provide "a heat transfer device that is not directional sensitive and does not require a high hydrodynamic resistance wick structure." (Thomas col. 2, ll. 21 -23). "Unlike a heat pipe, which has a discrete wick, such as a screen or axial grooves, the invention relies upon a planar capillary fluid path formed in the body of the device. The geometry of the planar capillary fluid path avoids the relatively high hydrodynamic resistance wick of existing heat pipes." (col. 3, ll. 21-24). Not only Thomas' invention requires a planar capillary fluid path 50, formed between the top body portion and the bottom body portion, that surrounds different non-capillary regions 202, 204, 206 and the planer capillary fluid path leads the fluid flow back to the evaporator, but also Thomas teaches away from using any wick structure within his heat pipe design. In principle, the evaporator surface of Thomas' invention will heat up the fluid and convert it into vapor. The vapor will enter non-capillary regions where the vapor is cooled down and condensed into liquid. Through the surrounding capillary fluid path, the condensed liquid is leaded back to the evaporator.

However, the current invention discloses a supporting structure for a flat heat pipe to prevent the damage of the pipe caused from strain and stress. In contrary to the current invention, Feldman discloses a two layers wick structure used in the flat heat pipe while Thomas teaches away from using wick structure in his flat heat pipe design. The two prior art as a whole doesn't suggest the desirability of the combination. "When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references." In re Rouffet, 149 F.3d 1350, 1355 (Fed. Cir. 1998). Therefore, Applicant respectfully disagree with the rejection by the combination of the cited prior art.

Moreover, as the courts state "obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). Neither Feldman nor Thomas teaches the elements presented in the amended claim 1, first, the supporting structure of the current invention is not the two-layers wick structure disclosed by Feldman; second, the perforation regions of the current invention doesn't have a surrounding planar capillary fluid path as required by Thomas' design for his non-capillary regions. Besides the structural difference between the two designs, another major difference between the channel of the current invention and the planar capillary fluid path of Thomas is that only fluid is transmitted by Thomas' planar capillary fluid path while both the vapor and the fluid will travel through the channel of the perforation regions of the current invention. Last, a skilled person in the flat heat pipe field will not combine Feldman with Thomas because Thomas specifically teaches away from using wick structure inside his flat heat pipe design.

If the Examiner believes that a further telephonic interview will facilitate allowance of

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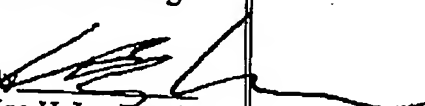
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claims, he is respectfully requested to contact the undersigned at (610) 446-5886. For the reasons stated above, Applicants respectfully assert that the pending claims are in condition for allowance. Reconsideration and allowance of the pending claims are respectfully requested.

Respectfully submitted,

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